UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY.DOCKET NO.	CONFIRMATION NO.
10/785,426	02/23/2004	Ru-Shang Wang	915-005.062-1	8590

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/785,426	WANG ET AL.
		Examiner	**Art Unit**
		Anner Holder	2621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
 Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL.** 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-32* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-32* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>23 February 2004</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

        1.☐ Certified copies of the priority documents have been received.

        2.☐ Certified copies of the priority documents have been received in Application No. _____.

        3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *See Continuation Sheet*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :04/02/07;02/15/07;01/24/05;10/07/04;09/13/04;08/02/04.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

2.   Claims 19-24 and 26-32 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claims 19-24 and 26 define a "computer program product" and claims 27-32 define a "signal for transmitting video information" embodying functional descriptive material. However, the claim does not define a computer-readable medium or computer-readable memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" - MPEP 2106.01 I). The scope of the presently claimed invention encompasses products that are not necessarily computer readable, and thus NOT able to impart any functionality of the recited program. The examiner suggests amending the claim(s) to embody the computer program on "computer-readable medium" or equivalent; assuming the specification does NOT define the computer readable medium as a "signal ", "carrier wave", or "transmission medium" which are deemed non-statutory (refer to "note" below). Any amendment to the claim should be commensurate with its corresponding disclosure.

Note:

A "signal" (or equivalent) embodying functional descriptive material is neither a process nor a product (i.e., a tangible "thing") and therefore does not fall within one of the four statutory classes of § 101. Rather, "signal" is a form of energy, in the absence of any physical structure or tangible material. Should the full scope of the claim as properly read in light of the disclosure encompass non-statutory subject matter such as a "signal", the claim as a whole would be non-statutory. In the case where the specification defines the computer readable medium or memory as statutory tangible products such as a hard drive, ROM, RAM, etc, as well as a non-statutory entity such as a "signal", "carrier wave", or "transmission medium", the examiner suggests amending the claim to _include_ the disclosed tangible computer readable media, while at the same time _excluding_ the intangible media such as signal s, carrier waves, etc.

Claim Rejections - 35 USC § 102

3.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4.   Claims 1-32 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al. (Wu) US 6,804,301 B2.

5.   As to claim 1, Wu teaches a method for transmitting video information, in which at least one bitstream is formed from the video information comprising a set of frames, the frames comprising macroblocks, wherein the method comprises: forming at least one switching frame

into said bitstream; [Abstract; Fig. 2] arranging macroblocks of said switching frame into a first group of macroblocks and a second group of macroblocks; [Abstract; Fig. 2] encoding each macroblock of said first group of macroblocks by a first encoding method to provide a switching point for continuing transmission of video information with another bitstream formed from the video information; [Abstract; Col. 2 Lines 32-33; Fig. 3; Fig. 1] and encoding macroblocks of said second group of macroblocks by another encoding method. [Abstract; Col. 5 Lines 24-34]

6.   As to claim 7, see rejection of claim 1, except this is a claim to encoder for encoding video information with the same limitations as claim 1.

7.   As to claim 13, see rejection of claim 1, except this is a claim to a transmission system for transmitting video information with the same limitations as claim 1.

8.   As to claim 19, see rejection of claim 1, except this is a claim to computer program product with the same limitations as claim 1.

9.   As to claim 27, see rejection of claim 1, except this is a claim to signal for transmitting video information with the same limitations as claim 1.

10.   As to claim 2, Wu teaches encoding said first group of macroblocks by an intra encoding method. [Col. 5 Lines 24-34]

11.   As to claim 8, see rejection of claim 2, except this is a claim to encoder for encoding video information with the same limitations as claim 2.

12.   As to claim 14, see rejection of claim 2, except this is a claim to a transmission system for transmitting video information with the same limitations as claim 2.

13.   As to claim 20, see rejection of claim 2, except this is a claim to computer program product with the same limitations as claim 2.

14.   As to claim 28, see rejection of claim 2, except this is a claim to signal for transmitting video information with the same limitations as claim 2.

15.   As to claim 3, Wu teaches encoding said second group of macroblocks by a predictive encoding method. [Col. 5 Lines 24-34]

16.   As to claim 9, see rejection of claim 3, except this is a claim to encoder for encoding video information with the same limitations as claim 3.

17.   As to claim 15, see rejection of claim 3, except this is a claim to a.transmission system for transmitting video information with the same limitations as claim 3.

18.   As to claim 21, see rejection of claim 3, except this is a claim to computer program product with the same limitations as claim 3.

19.   As to claim 29, see rejection of claim 3, except this is a claim to signal for transmitting video information with the same limitations as claim 3.

20.   As to claim 4, Wu teaches arranging said macroblocks of said switching frames into a set of slices, and arranging macroblocks of one slice of said set of the slices as said first group of macroblocks, and arranging macroblocks of other slices of said set of the slices as said second group of macroblocks. [Abstract; Fig. 2]

21.   As to claim 10, see rejection of claim 4, except this is a claim to encoder for encoding video information with the same limitations as claim 4.

22.   As to claim 16, see rejection of claim 4, except this is a claim to a transmission system

for transmitting video information with the same limitations as claim 4.

23.   As to claim 22, see rejection of claim 4, except this is a claim to computer program

product with the same limitations as claim 4.

24.   As to claim 30, see rejection of claim 4, except this is a claim to signal for transmitting

video information with the same limitations as claim 4.

25.   As to claim 5. The method according to claim 1 comprising forming at least a first

switching frame and a second switching frame into said bitstream, the switching frames being

divided into mutually similar groups of macroblocks with each macroblock of the first switching

frame having a spatially respective macroblock in said second switching frame; [Abstract; Col. 5

Lines 24-37; Fig. 1; Fig. 2] arranging macroblocks of said first switching frame into a first group

and a second group of macroblocks; [Abstract; Fig. 1; Fig. 2] arranging macroblocks of said

second switching frame into a third group and a fourth group of macroblocks so that the

macroblocks of said third group of macroblocks are spatially different macroblocks than the

macroblocks of said first group of macroblocks; [Abstract; Fig. 1; Fig. 2] encoding each

macroblock of said first group and said third group of macroblocks by a first encoding method to

provide a switching point for continuing the transmission of video information with said other

bitstream formed from the video information; [Abstract; Col. 2 Lines 32-35; Figs. 1-3]and

encoding macroblocks of said second group and said fourth group of macroblocks by another

encoding method. [Abstract; Col. 5 Lines 24-34; Col. 2 Lines 32-33; Fig. 1; Fig. 2]

26.   As to claim 11, see rejection of claim 5, except this is a claim to an encoder for encoding

video information with the same limitations as claim 5.

27.   As to claim 17, see rejection of claim 5, except this is a claim to a transmission system

for transmitting video information with the same limitations as claim 5.

28.   As to claim 23, see rejection of claim 5, except this is a claim to computer program

product with the same limitations as claim 5.

29.   As to claim 31, see rejection of claim 5, except this is a claim to signal for transmitting

video information with the same limitations as claim 5.

30.   As to claim 6, Wu teaches forming an intra encoded frame from a frame of said set of

frames, forming switching predictive encoded frame from a frame following said intra encoded

frame, and forming said at least one switching frame from a frame following said switching

predictive encoded frame. [Abstract; Col. 5 Lines 24-34; Col. 2 Lines 32-33; Fig. 1; Fig. 2]

31.   As to claim 12, see rejection of claim 6, except this is a claim to encoder for encoding

video information with the same limitations as claim 6.

32.   As to claim 18, see rejection of claim 6, except this is a claim to a transmission system

for transmitting video information with the same limitations as claim 6.

33.   As to claim 24, see rejection of claim 6, except this is a claim to computer program

product with the same limitations as claim 6.

34.   As to claim 32, see rejection of claim 6, except this is a claim to signal for transmitting

video information with the same limitations as claim 6.

35.   As to claim 25, Wu teaches a method for reducing effects of transmission errors in

transmission of video information, in which at least one bitstream is formed from the video

information comprising a set of frames, the frames comprising macroblocks, wherein the method

comprises: forming at least one switching predictive encoded frame into said bitstream by predictively encoding the macroblocks of the frame; [Abstract; Fig. 2; Col. 5 Lines 30-37; Col. 2 Lines 49-54] replacing part of the switching predictive encoded macroblocks with macroblocks encoded by an intra encoding method; [Abstract; Fig. 2; Fig. 3; Col. 5 Lines 24-37; Col. 6 Lines 42-46] and transmitting a frame containing both predictively encoded macroblocks and intra encoded macroblocks instead of said switching predictive encoded frame.[Abstract; Fig. 2; Col. 2 Lines 49-54]

36.   As to claim 26, see rejection of claim 25, except this is a claim to computer program product with the same limitations as claim 25.

Conclusion

37.   The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chen et al. (US 7,046,910 B2).

38.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anner Holder whose telephone number is 571-270-1549. The examiner can normally be reached on M-Th, M-F 8 am - 3 pm EST.

        If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ANH 10/11/07

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